WHAT IS CLAIMED IS:

1   1.   A method for downloading data to an electronic
2 device, the electronic device having a device type that is
3 one of a plurality of device types, the method comprising
4 the steps of:

5   (a) receiving a download entity in the electronic
6 device, the download entity including data associated with
7 each device type;

8   (b) determining the device type of the electronic
9 device; and

10   (c) discarding the data in the download entity not
11 associated with the determined device type such that only
12 data associated with the determined device type is retained
13 by the electronic device.

1   2.   The method of claim 1, wherein the data associated
2 with the determined device type is stored in non-volatile
3 memory.

1   3.   The method of claim 1, wherein the data in the
2 download entity comprises program code for execution on the
3 electronic device.

1   4.   The method of claim 1, wherein the data in the
2 download entity comprises device parameters characterizing
3 the electronic device.

1   5.   The method of claim 1, further comprising the
2 steps of:
3   (a)   retrieving from the download entity an
4 installation routine; and
5   (b)   executing the installation routine on the
6 electronic device to retrieve from the download entity the
7 data associated with the determined device type.

1   6.   The method of claim 5, further comprising the step
2 of discarding the installation routine.

1   7.   The method of claim 5, wherein the download entity
2 retrieving and executing steps are performed at least in
3 part by a download processing routine resident in the
4 electronic device.

1   8.   The method of claim 7, wherein the download
2 processing routine is called in response to a download
3 command transmitted from a host computer.

1   9.   The method of claim 7, further comprising the step

2 of providing the installation routine with pointers to

3 utilities resident on the electronic device for executing

4 the installation routine.

1   10.   The method of claim 5, wherein the download entity

2 includes a device type table, and wherein the download

1   13. The method of claim 12, wherein the download

2 entity retrieving step in the installation routine executing

3 step includes the step of copying the data image block to

4 non-volatile storage in the electronic device.

1   14. The method of claim 13, wherein the download

2 entity retrieving step in the installation routine executing

3 step includes the step of, before building the data image in

4 the data image block, copying the current contents of the

5 non-volatile storage in the electronic device to the data

6 image block.

1   15. The method of claim 1, wherein the device type

2 determining step includes the step of retrieving a device

3 type indicator stored in a non-volatile memory device in the

4 electronic device.

1   16. The method of claim 1, wherein the device type

2 determining step includes the step of testing one or more

3 operating characteristics of the electronic device, wherein

4 the tested operating characteristics vary between different

5 device types.

1   17.   The method of claim 1, wherein the electronic

2 device is a disk drive, the disk drive including a data

3 buffer for receiving the download entity, and a first

4 controller, coupled to the data buffer and utilizing the

5 data associated with the determined device type.

1   18.   The method of claim 17, wherein the disk drive

2 further includes a flash memory, coupled to the first

3 controller, for storing the data associated with the

4 determined device type.

1   19.   The method of claim 17, wherein the data in the

2 download entity includes servo parameters characterizing the

3 disk drive, and wherein the disk drive further includes a

4 second controller, coupled to the first controller, the

5 second controller having a random access memory for storing

6 the servo parameters associated with the determined device

7 type.

1   20.   The method of claim 19, wherein the first and

2 second controllers comprise the same processor.

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1   21.   The method of claim 17, wherein the disk drive is

2 one of an array of disk drives controlled by an array

3 controller, the method further comprising the step of

4 transmitting the download entity to a plurality of disk

5 drives in the array; whereby each of the plurality of disk

6 drives retains only the data in the download entity

7 associated with its determined device type.

1   22.   An electronic device having a device type that is

2 one of a plurality of device types, the device comprising:

3   (a)   memory means for storing operational data utilized

4 during operation of the electronic device;

5   (b)   receiver means for receiving a data object

6 externally from the electronic device, the data object

7 including data associated with a plurality of device types;

8 and

9   (c)   installation means for installing in the memory

10 means only data from the data object that is associated with

11 the device type of the electronic device.

1   23.   The electronic device of claim 22, wherein the

2 memory means comprises non-volatile memory.

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1   24. The electronic device of claim 22, wherein the

2 data in the data object is selected from the group

3 consisting of program code, device parameters, and

4 combinations thereof.

1   25. The electronic device of claim 23, wherein the

2 installation means retrieves from the data object an

3 installation routine and executes the installation routine

4 to retrieve the data associated with the device type of the

5 electronic device.

1   26. The electronic device of claim 21, wherein the

2 plurality of device types represent different electronic

3 products having different functionality but which share an

4 identical hardware platform.

1   27. The electronic device of claim 25, wherein the

2 installation means reboots the electronic device to discard

3 the installation routine and the data in the data object

4 that is not associated with the device type of the

5 electronic device.

1   28.   The electronic device of claim 23, wherein the

2 electronic device is a disk drive including a data buffer

3 for temporarily storing the data object, wherein the

4 installation means comprises a controller, and wherein the

5 memory means comprises a non-volatile memory associated with

6 the controller.

1   29. A disk drive, comprising:

2   (a) a communications interface for receiving a

3 download entity, the download entity including data

4 associated with a plurality of types of disk drives;

5   (b) a memory for storing operational data associated

6 with the disk drive; and

7   (c) a controller, coupled to the communications

8 interface, the controller (1) determining a type for the

9 disk drive, (2) retrieving from the download entity only the

10 data associated with the determined type for the disk drive,

11 (3) storing the data associated with the determined type for

12 the disk drive in the memory, and (4) discarding any data in

13 the download entity not associated with the determined type

14 for the disk drive.

1   30. The disk drive of claim 29, wherein the memory

2 comprises non-volatile memory.

1   31. The disk drive of claim 29, wherein the data in

2 the download entity is selected from the group consisting of

3 program code, device parameters, and combinations thereof.

1   32.   The disk drive of claim 29, wherein the download

2 entity includes an installation routine executable by the

3 controller; a device type table, indexed by device type,

4 including the data in the download entity; and a data image

5 block allocated in the download entity, and wherein the

6 controller retrieves and executes the installation routine

7 to build a data image in the data image block from the data

8 in the device type table that is associated with the

9 determined type for the disk drive.

1   33.   The disk drive of claim 29, wherein the

2 communications interface includes a data buffer for

3 receiving the download entity, the disk drive further

4 comprising a second controller, coupled to the first

5 controller, the second controller having a random access

6 memory for storing servo parameters from the download entity

7 that characterize the disk drive.

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1   34. An apparatus, comprising:

2   (a) an array of direct access storage devices, each of

3 which having a device type and a memory for storing

4 operational data utilized in the operation thereof; and

5   (b) an array controller controlling the array of

6 direct access storage devices, the array controller

7 providing a generic download entity to a plurality of the

8 direct access storage devices to update the memories

9 thereof, the generic download entity including operational

10 data associated with a plurality of device types;

11   wherein each of the plurality of direct access storage

12 devices stores in its memory only operational data from the

13 download entity that is associated with its respective

14 device type and discards the operational data not associated

15 with its respective device type.

1   35. The apparatus of claim 34, wherein the memory

2 comprises non-volatile memory.

1   36. The apparatus of claim 34, wherein the operational

2 data in the download entity is selected from the group

3 consisting of program code, device parameters, and

4 combinations thereof.

1   37. The apparatus of claim 34, wherein the download
2 entity includes an installation routine, wherein each of the
3 plurality of direct access storage devices executes the
4 installation routine to store only the operational data that
5 is associated with it's respective device type.

1   38. A download entity for downloading to an electronic
2 device having a device type that is one of a plurality of
3 device types, the download entity, comprising:
4   (a) a block of data, the data block having portions
5 associated with each of the plurality of device types; and
6   (b) an installation routine, executable by the
7 electronic device, for retrieving only the portion of the
8 data in the download entity that is associated with the
9 device type of the electronic device.

1   39. The download entity of claim 38, further
2 comprising a device type table, indexed by device type and
3 identifying the portions of the data block associated with
4 each device type.

1   40. The download entity of claim 39, further
2 comprising a data image block utilized by the installation
3 routine for building a data image from the data in the
4 device type table that is associated with the device type of
5 the electronic device.

1   41. A program storage device readable by an electronic
2 device, the program storage device tangibly embodying the
3 download entity of claim 38.